

REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicants basically:

1. Editorially amend the Abstract.
2. Editorially amend the specification, primarily to update the cross-references to related applications.
3. Respectfully traverse all prior art rejections.

B. PATENTABILITY OF THE CLAIMS

Claims 1-10 and 27-33 stand rejected under 35 USC §102(e) as being anticipated by U.S. Publication 2003/0012267 to Jitsukawa et al. Claims 11, 20-26, 34 and 43-49 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Publication 2003/0012267 to Jitsukawa et al in view of U.S. Patent 5,790,606 to Dent. All prior art rejections are respectfully traversed for at least the following reasons.

Applicant's claims and Jitsukawa differ in very fundamental ways. As indicated by Applicant's title and clearly stated in the independent claims, Applicant has a joint processing for searcher and channel estimation. By contrast, Jitsukawa discloses merely a sequential processing for searcher and phase difference estimation.

In Jitsukawa the phase difference for each i^{th} sample is calculated as in equation (5). In Jitsukawa's equation (5) the complex baseband value of the signal between antenna index $n+1$ and antenna index n are compared.

Applicant's independent claims require that the phase difference for each i^{th} sample be calculated by utilizing baseband values jointly (see, e.g., Figs. 9A and 9B, as well as use of FFT [see Fig. 20 and expression 8 in Applicant's specification]).

Applicant advantageously realizes a higher SNR for detecting an actual incoming wave since Applicant has performed a coherent vector multiplication between the baseband values over the N antennas with the FFT vector. By this Applicant has better detection performance given a certain false alarm rate compared to Jitsukawa.

Further, Applicant's claims are directed to a joint searcher AND channel estimator. By contrast, Jitsukawa merely discloses a (sequential) searcher, but does not mention channel estimates.

Given the glaring deficiencies of Jitsukawa, the foundations of the prior art rejections crumble. Dent does not, and apparently is not alleged, to remedy these fundamental deficiencies nor to rehabilitate or supplement Jitsukawa in any meaningful way pertinent to the above-noted deficiencies.

C. MISCELLANEOUS

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: H. Warren Burnam, Jr.

H. Warren Burnam, Jr.

Reg. No. 29,366

HWB:lsb
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100